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ABSTRACT

Newood Products was one of the business partners involved in the Workplace Training Project, during which Lane Community College in Eugene, Oregon, and area businesses jointly developed worksite-specific, competency-based training in employer- and worker-identified basic skills. Over a 2-year period, second language courses in both Spanish and English were developed to improve work-related communication between Newood employees--especially those who primarily spoke Spanish with others. Network analysis was used to compare workers' communication patterns before and after the language classes. The network of people involved in the two language training courses did not grow. In the case of the network of all Newood employees, frequency of communication among the network increased but the network's overall size remained virtually unchanged. The network's core (four to six people who spoke Spanish as their primary language) remained largely unchanged. Seven new members were added to the final network. After 18 months, 50% of Newood employees reported occasionally communicating about work partially in Spanish, and about 12% used Spanish frequently during the workday. The language classes appeared to bring more people into the network (at least temporarily) and to increase the frequency of communicating using at least partial Spanish. (MN)

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ED 424 445

Evaluation Report:

Network Analysis of Spanish/English Communication at Newood Products

Submitted to Newood Products and
The Workplace Training Project, Lane Community College

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Evaluation Report: Network Analysis of Spanish/English Communication at Newood Products

Communication was the most important training need discussed by employees of Newood during the "Job Task Analysis" conducted by Meristem Organizational Development Consultants at the beginning of The Workplace Training Project in 1995. A year later, a survey of leads and supervisors identified improvement in communication as having been the most important impact of Newood's participation in the Project. One area that had not been targeted initially was communication between employees with Spanish as their first language, and other employees. Classes conducted over the past two years were aimed at teaching "second language" courses in both English and Spanish, to increase the work related communication between employees--and in particular to increase the communication between employees who primarily spoke Spanish with others.

Network analysis was used to view the changing communication patterns before and after language classes. The four network figures presented in the following pages span the period from May, 1996 to October, 1997. The first two figures represent only people who were attending language classes. The final two figures were drawn from a survey of all Newood employees. Each survey identified with whom each employee spoke about work related matters, and with what frequency, using at least partial Spanish. Network analysis software identifies the grouping of employees according to the communication pattern. (Actual results of these analysis have been presented separately to Newood. The figures presented in this report summarize the networks.) Those workers that are depicted closer to the center of the circle (10) are the "strongest" members of the network--that is, they communicate with each other many times per day. Those that are "weaker" members of the network (depicted towards the outside of the circles) still may be communicating with anyone in the network, but at a less frequent level.

To interpret these networks, the basic questions are whether both types of employees are communicating with each other (those with and without English as their primary language), whether this network grows over time, and whether frequency of communication increases. The report received by Newood also identifies who are currently the key "connectors" within this network, and whether these individuals have changed over time.

Results

1. The first two figures show an increase in frequency of communication among the network. Because the survey only involved people in the two language training courses, there was no growth in the network.
2. The pattern in the survey of all employees (figures 3 and 4) is similar, with an increase in frequency of communication among the network, but with the overall size being about the same as prior to the training.

3. Overall, across the eighteen months, the size of the network does not grow in any significant manner. As would be expected over time, there are new members added and lost to the network.
4. The core--the strongest members of the network--remain largely unchanged, and made up of four to six people who speak Spanish as their primary language.
5. Seven new members were added to the final network.
6. As of October 97, 50% of Newood employees report communicating about work in partial Spanish on occasion; about 12% (all of whom report Spanish as primary language) use Spanish frequently during the work day.

Many factors influence the communication patterns and the make-up of the networks using Spanish at Newood. The language classes do appear to bring more people into the network at least temporarily, and to increase the frequency of communication using at least partial Spanish.

FIGURE 1. May, 1996 Network of those speaking together in at least partial Spanish

FIGURE 2. July, 1996 Network

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FIGURE 3. July, 1997 Network of those speaking together in at least partial Spanish (note: 13 others were named, including 2 persons with Spanish as their first language)

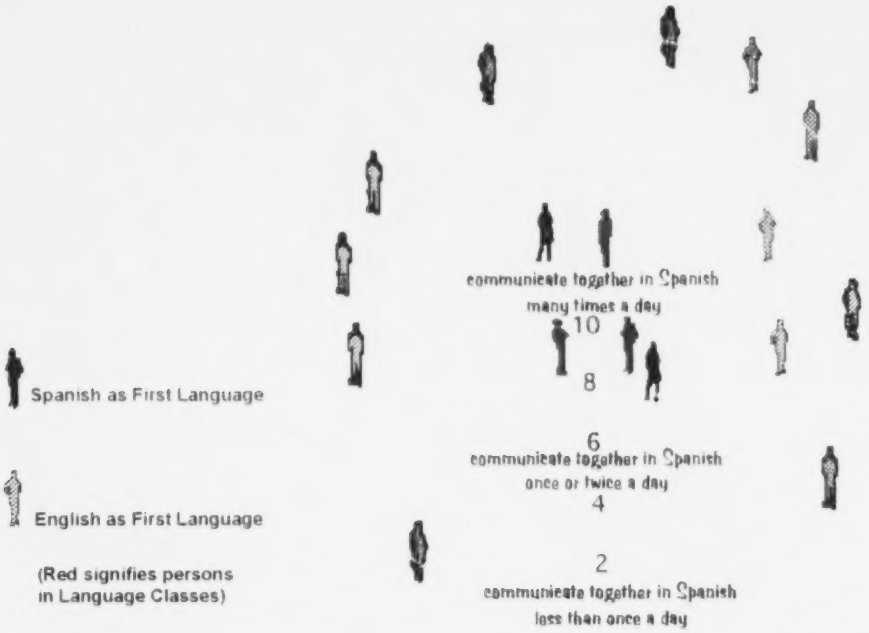
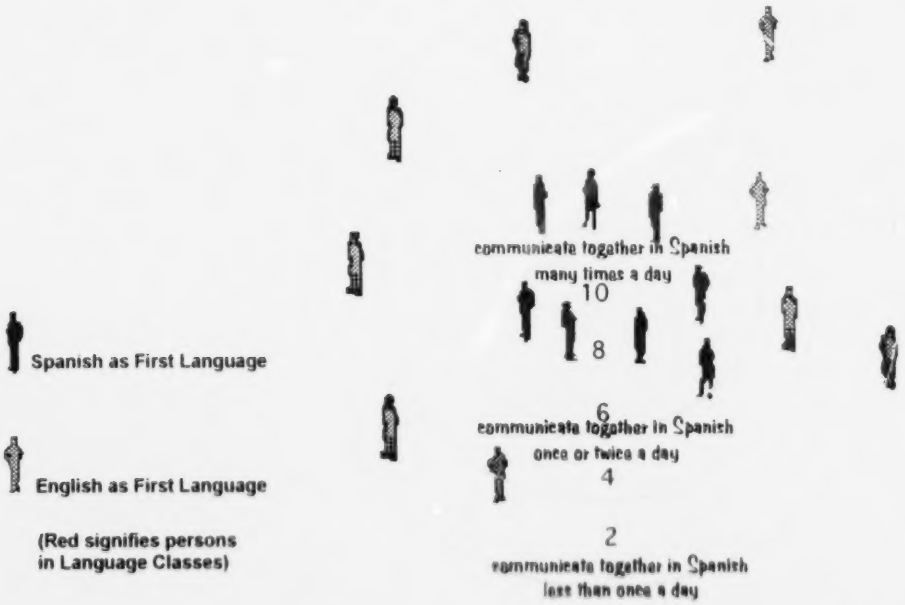

Spanish as First Language
English as First Language
(Red signifies persons in Language Classes)
communicate together in Spanish many times a day
10
8
6
communicate together in Spanish once or twice a day
4
2
communicate together in Spanish less than once a day

FIGURE 4. October 1, 1997 Network (note: 12 others were named, of which none have Spanish as their first language)


Spanish as First Language
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communicate together in Spanish many times a day
10
8
6
communicate together in Spanish once or twice a day
4
2
communicate together in Spanish less than once a day

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Spanish/English Network at Newood, May 1996

	#1	#2
IS	1	1 2 3 4
UV	1	1 2 3 4 5
RU	1	1 2 3 4 5 6 7 8 9
BJ	1	1 2 3 4 5 6 7 8 9
DA	1	1 2 3 4
JN	1	1 2
CO	1	1 2
GC	1	1 2
KK	1	1
CY	1	1
JQ	1	1
AN	1	1
JB	1	
JO	1	
CT	1	
JC	1	
IM	1	
JR	1	
AC	1	
KN	1	
AT	1	
LN	1	
MO	1	
AD	1	

---------- end of cliques ----------

Note: The first column of numbers indicate who is in language training (1=trainee, 2=non-trainee). The second set of numbers represent the strength, or level, of communicative interaction between employees, with one being the lowest level (less than once per day) and 10 being the highest level (many times per day). Persons listed but who do not even reach level one are those who have been named as being part of the network, but who do not fully qualify as network members. (To qualify as a network member, there must be reciprocity between members. One member in the network must nominate the person, and he or she must in turn nominate someone within the network. The same is true of level of interaction. Everyone in the network above have been nominated at least at the level "1"; two employees have both nominated each other at the level "9".)

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Spanish/English Network at Newood, July 1996

	#1	#2
IS	1	1 2 3 4 5 6 7 8 9
RU	1	1 2 3 4 5 6 7 8 9
BJ	1	1 2 3 4 5 6 7 8 9
JC	1	1 2 3 4 5 6 7 8
UV	1	1 2 3 4 5 6 7 8
CT	1	1 2 3 4 5 6 7
CO	1	1 2 3 4 5 6 7
JN	1	1 2 3 4 5
IM	1	1 2 3 4 5
DM	1	1 2 3 4
CY	1	1 2
GC	1	1 2
JB	1	
KM	1	
AD	1	
JO	1	
MO	1	
JR	1	
AC	1	
KN	1	
AC	1	
LN	1	
JQ	1	
AN	1	

---------- end of cliques ----------

Note: The first column of numbers indicate who is in language training (1=trainee, 2=non-trainee). The second set of numbers represent the strength, or level, of communicative interaction between employees, with one being the lowest level (less than once per day) and 10 being the highest level (many times per day). Persons listed but who do not even reach level one are those who have been named as being part of the network, but who do not fully qualify as network members. (To qualify as a network member, there must be reciprocity between members. One member in the network must nominate the person, and he or she must in turn nominate someone within the network. The same rule is true of level of interaction. Everyone in the network above have been nominated at least at the level of "1"; three employees have nominated each other at least at the level of "9").

Spanish/English Network at Newood, July, 1997

	#1	#2
DA	2	1
JO	1	1 2 3 4 5 6 7 8 9 10
AD	1	1 2 3 4 5 6 7 8 9 10
IM	2	1 2 3 4 5 6 7 8 9 10
VE	2	1 2 3 4 5 6 7 8 9 10
UV	1	1 2 3 4 5 6 7 8 9
JX	1	1 2 3 4
RA	2	1 2 3 4
AN	2	1 2
BJ	2	1 2
TW	2	1
AC	1	1
MI	2	1
BN	2	1 2
AV	2	1 2
CY	2	1 2
JU	2	1
JQ	1	
HK	1	
JC	2	
SM	2	
KN	1	
BJ	2	
KS	2	
AE	2	
GC	1	
RA	1	
LN	1	
RO	1	
MW	2	

---------- end of cliques ----------

Note: Within the first column of numbers, a "1" signifies a person enrolled in the language training, and a "2" represents a non-trainee.

Spanish/English Network at Newood, October 1997

	#1	#2
DA	2	
JO	1	1 2 3 4 5 6 7 8 9
IS	2	1 2 3 4 5 6 7 8 9
UV	1	1 2 3 4 5 6 7 8 9
AD	1	1 2 3 4 5 6 7 8 9
VE	2	1 2 3 4 5 6 7 8 9
IM	2	1 2 3 4 5 6
AE	1	1 2 3 4 5 6 7 8 9
RO	2	1 2 3 4 5 6 7 8 9
AC	1	1 2 3 4 5
KN	1	1 2 3 4
BN	2	1 2 3
MW	2	1 2
JC	2	1 2
MT	2	1 2
BJ	2	1 2
CY	2	1
AV	2	1
GC	1	
DH	2	
GT	2	
HK	1	
LN	1	
RA	1	
GL	2	
TW	2	
TM	2	
MO	2	
DA	2	
LL	2	

---------- end of cliques ----------

Note: Within the first column of numbers, a "1" signifies a person enrolled in the language training, and a "2" represents a non-trainee.